

REDUCING TRANSIENT CURRENT CAUSED BY CAPACITANCE
DURING HIGH SPEED SWITCHING

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ABSTRACT OF THE DISCLOSURE

10 An isolation resistor is inserted in series between a current source and the emitters
of bipolar switching transistors in a differential amplifier. The switching transistors may
also be MOSFETs. The in-rush current through the resistor, due to a parasitic or added
capacitance, creates a certain increased voltage drop across the resistor, reducing dv/dt
and thus reducing the transient in-rush current into the capacitor. This results in reduced
waveform distortion. Such an isolation resistor between a current carrying terminal of a
switching bipolar transistor and a current source may be used in various applications,
15 including an emitter follower.